1 # IN-KERNEL CONTENT-AWARE SERVICE DIFFERENTIATION

2 ## ABSTRACT OF THE INVENTION

3 The increasing number of Internet users and innovative new
4 services such as e-commerce are placing new demands on Web
5 servers. It is becoming essential for Web servers to provide
6 performance isolation, have fast recovery times, and provide
7 continuous service during overload at least to preferred
8 customers. The invention describes a kernel-based architecture
9 for content-aware service differentiation that protects Web
10 servers against overload by controlling the amount and rate of
11 work entering the system. We have invented a mechanism that
12 provides admission control and service differentiation based on
13 connection and application level information. The *application
14 header-based connection control* uses application-level
15 information (such as URIs and cookies for HTTP) to define
16 different service differentiation actions. The present invention
17 provides the kernel mechanisms that are more efficient and
18 scalable than application level controls implemented in current
19 Web servers.